

ADDITIONAL FEE:

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R E M A R K S

The Office Action issued April 18, 2003 has been received and its contents have been carefully considered.

Submitted herewith, for consideration of the Examiner, is a copy of the last sheet of drawings, containing Figs. 14, 15 and 16, with proposed amendments indicated in red ink. In particular, applicant proposes to change the word "FASE" to -- PHASE --.

As requested by the Examiner, the specification, claims and Abstract of this application have been thoroughly reviewed and amended to overcome the numerous informalities in the English translation of the originally filed German text. Care has been taken to insure that the nomenclature is consistent and clear throughout and that the prose is understandable. The Examiner's assistance in pointing out certain informalities is greatly appreciated.

The provisional allowance of claims 37-38, 45, 57-58 and 60-64 is also noted with appreciation.

Claim 35, the only independent claim in this application, has been substantially amended to clearly delineate the boundaries of the present invention. It is believed that this claim 35, as now amended, distinguishes patentably over the references of record.

As pointed out in the "Background of the Invention" section of this application, the invention concerns a "switching device" of the type disclosed in the International Patent Publication No. WO 98/26341 A1. Since the present application was filed, a U.S. patent corresponding to this WIPO publication has issued as No. 6,380,733. A copy of this '733 patent is attached for the convenience of the Examiner.

This prior '733 patent discloses a position selector device which is capable of sensing the angular position of a rotatable knob 30 and the pressing of this knob downward in the axial direction. This prior patent thus combines a "rotary switch" with a "tip switch". Because the knob 30 is constrained by a toothed ring to be retained in a plurality of "detent" positions as it rotates about 360°, the "rotary switch" is also called a "raster switch".

The present application discloses and claims a switching device of this prior known type that has an additional degree of freedom. In particular, the switching device includes a disk, in place of the knob 30, which may be tilted or moved laterally, thus forming a so-called "tilt switch".

Fig. 2 of this application, which illustrates the preferred embodiment of the present invention, shows an inverted cup-like base body 2 having an upper portion and a side portion; a substantially cylindrical rotor hollow body 8 mounted on a shaft 9 and arranged to rotate with the base body; a first position sensor 43 for sensing the angular position of the rotary member; a toothed ring 13 and 26 arranged to provide raster movement of the rotary member; a disk 3 disposed centrally within the upper portion of the base body and arranged to be tilted and/or displaced laterally within the base body; a second position sensor 7 for sensing the tilting and/or lateral displacement of the disk; and a magnet arrangement 6 for restoring the disk to its central position in the base body after it has been moved.

Claim 35, now thus defines this combination of a "tilt switch" and "raster switch" ("rotary switch"). For the convenience of the Examiner, set forth below is a list of the elements referred to in the claims together with the respective reference numerals of each element as shown in the drawings:

Base Body 2

Disk 3

Label Plate 4

Magnet Arrangement 6

Second Position Sensor 7.1, 7.2 and 7.3

Rotor Hollow Body 8

Shaft 9

Hall Switch 43

Stator Body 14

Noise Sphere Receptor Recess 19, 20

Switching Sound Sphere 15, 16

Magnet Elements 12.1...12.4

Position Sensor Tooth Ring Element 13

Switching Sound Ring Magnet Element 17

Tip Magnet Element 36

Repelling Magnet 37

Position Sensor Damping Body 35

Holding Hollow Cylinder 24

Magnet Arrangement 6 with Upper Magnet 6.1

Lower Magnet 6.2

Ring Magnet Element 7

Linking Pin 49

Plate Element 32

Claim 35, as originally presented, was rejected over the WIPO Patent Publication No. WO 98/26341 (now the U.S. '733 patent) in view of the U.S. Patent No. 5,698,909 to Miyazawa. This rejection, as it may apply to claim 35 as now amended, is respectfully traversed.

As pointed out above, the '733 patent discloses the basic environment of the present invention, to which a "tilt switch" has been added. Miyazawa fails to disclose or suggest a multi-function switch which combines a rotary or raster switch with a tilt switch. In particular, comparing the teaching of Miyazawa with claim 35, these references fail to suggest the provision of a "disk" disposed centrally within the upper portion of a rotatable base body.

Furthermore, the Miyazawa patent fails to teach the use of magnets to restore the disk to its central position in the

base body. While magnets 3 and 4 are used, they function in cooperation with Hall elements 6 and 7 which are arranged in recesses 51 and 52, respectively. Thus, the magnets 3, 4 are used as position sensors rather than for restoring the moveable element 2 to a central position.

Submitted herewith is a copy of the title page of applicant's corresponding European Patent Application No. EP 167,109 A3 with an attached Research Report. Copies of the references listed in this Research Report are also enclosed together with a PTOL Form 1449.

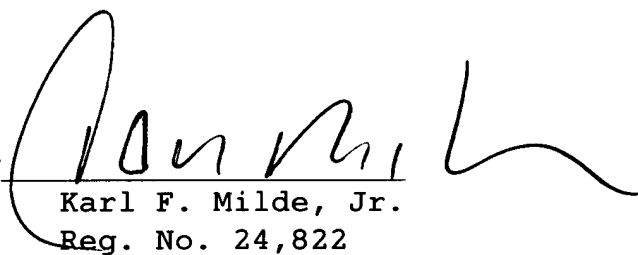
Of the eight references, only three were marked with the relevance category "x". These are the British Patent No. 2,199,926, the Japanese Patent No. 244570 and the U.S. Patent No. 6,069,552. These three references relate to directionally sensitive control devices or single function switches. There is no teaching or disclosure of the problems, and solutions, encountered when integrating a tilt switch into a rotary or raster switch.

The remaining five references are even further remote from the invention recited in independent claim 35.

Since all of the claims of this application depend, either directly or indirectly, from claim 35, and since all

of the informalities found in the application have been overcome by this amendment, this application is believed to be in condition for immediate allowance. A formal Notice of Allowance is accordingly respectfully solicited.

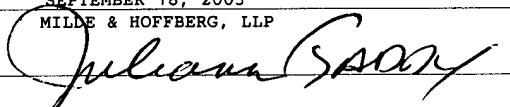
Respectfully submitted,

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SEPTEMBER 18, 2003
MILDE & HOFFBERG, LLP
By 
Date SEPTEMBER 18, 2003